

REMARKS

Claims 1-7, 9-21, 23-27, 29-36 and 38-51 have been rejected. Claims 8, 22, 28, and 37 were previously canceled. The claims have been amended to correct various typographical errors, as well as address the objections to the claims. New claims 52-53 have been added. Claims 1-7, 9-21, 23-27, 29-36 and 38-53 are now pending in this application.

Drawings

The Office Action presented objections to Figure 1A stating "Figure 1A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated." (Office Action, page 2). A corrected drawing sheet in compliance with 37 CFR 1.121(d) is submitted herewith.

Claim Rejections – 35 U.S.C. § 112

Claims 1-7, 9, 15-21, 23, 24-27, 29-36, 38-48, and 49-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse these rejections.

The Examiner asserts that independent claims 1, 15, 24, 30 and 39 recite the limitation "the first gateway device actively forwards packets simultaneously with the second gateway device, and the second gateway device actively forwards packets simultaneously with the first gateway device." Before addressing the rejection, Applicant notes that term "simultaneous" or "simultaneously" is not recited in independent claim 1.

The Examiner asserts that "A thorough search of the disclosure does not recite the word 'simultaneously' or equivalent" and that "the disclosure does not explicitly recite 'the first gateway device actively forwards packets' or 'the second gateway device actively forwards packets'."

Applicant has amended claim 39 in an attempt to address the Examiner's concerns. Specifically, claim 39 now recites "wherein both the first gateway device and the second gateway device forward packets at a given point in time." As another example, claim 10 (discussed below)

has been amended to recite that both the first and second gateway devices operate as active gateways to forward packets. Should the Examiner find either of these alternatives acceptable, the remaining rejected independent claims can be amended accordingly. In addition, Applicant would welcome any suggestions regarding alternative language that the Examiner believes would be acceptable.

While Applicant has attempted to address the Examiner's concerns in some of the pending claims, Applicant believes that the language that was added in the recent amendment filed on August 11, 2008 is supported by the specification. The Specification states: "*One drawback to HSRP systems [an earlier redundant gateway system] in general is that only one gateway device in a redundancy group is in use at any given time. To better utilize system resources in such redundancy systems, a gateway load balancing protocol (GLBP) was developed by Cisco and is the subject of commonly owned and copending U.S. Ser. No. 09/883,674 filed Jun. 18, 2001, entitled GATEWAY LOAD BALANCING PROTOCOL, which is incorporated herein by reference in its entirety for all purposes.*" (Specification, [0010](emphasis added)). It is clear from this passage and from the teachings of U.S. Ser. No. 09/883,674 filed Jun. 18, 2001, entitled GATEWAY LOAD BALANCING PROTOCOL, that Cisco's Gateway Load Balancing protocol, a precursor to the present invention, allows more than one gateway device in a redundancy group to be in use at any given time. The patent application cited above describes a system where two gateway devices may forward data packets simultaneously. (See Patent Application, U.S. Ser. No. 09/883,674 filed Jun. 18, 2001, entitled GATEWAY LOAD BALANCING PROTOCOL, incorporated by reference, at page 6). As the Specification makes clear, this feature of Cisco's gateway protocol has been retained in certain embodiments of the present invention. While the Specification may not use the term "simultaneous" *per se*, it clearly envisions simultaneous use of two or more gateway devices. If it were otherwise, for example, it would be difficult to imagine how one could implement reallocating traffic flow between different gateway devices to achieve better load balancing, as certain embodiments of the invention clearly do. In sum, Applicant respectfully asserts that the disclosure sufficiently describes the subject matter of a first gateway device and a second gateway device forwarding packets simultaneously.

Further, Applicant respectfully asserts that the Specification also sufficiently discloses the subject matter of 'the first gateway device *actively forwards* packets' and 'the second gateway device *actively forwards* packet'." (Cf. Office Action, page 5)(emphasis added). It may be that the specific phrase

“actively forwards” does not appear in the disclosure. However, the term Active Virtual Forwarder does appear in the Specification and is used to describe gateway devices that are “in use”, stating: “Any gateway device that is forwarding packets is referred to herein as an ‘Active Virtual Forwarder’ or AVF device.” This usage of “active” and “forward” is consistent with the other numerous appearances of “forward” and “active” in the Specification. “Forwarding”, for example, appears at page 2 of the Specification:

In Figure 1A, a local network 130 uses a single gateway router 110 to *forward* outbound packets for hosts 122, 124, 126 when those packets are bound for an outside network 150 (for example, the Internet).

(Specification, page 2)(emphasis added).

“Active” is used to refer to a gateway device being “in use”, i.e., forwarding packets, at a given point in time. For example, the term “active” is used at page 2 of Patent Application, U.S. Ser. No. 09/883,674 filed Jun. 18, 2001, entitled GATEWAY LOAD BALANCING PROTOCOL, incorporated by reference into the instant patent application, in the following manner:

HSRP forwards data packets from a host on a LAN through a virtual router. The host is configured so that the packets it sends to destinations outside of its LAN are always addressed to the virtual router. The virtual router may be any physical router elected from among a group of routers connected to the LAN. The router from the group that is currently emulating the virtual router is referred to as the “*active*” router. Thus, packets addressed to the virtual router are handled by the *active* router. A “*standby*” router, also from the group of routers, backs up the active router so that if the active router becomes inoperative, the standby router automatically begins emulating the virtual router.

(Patent Application, U.S. Ser. No. 09/883,674 filed Jun. 18, 2001, page 2)(emphasis added).

For at least these reasons, the Applicants respectfully submit that the rejections of independent claims 1, 15, 24, 30, 39, and 48, as failing to comply with the written description requirement under 35 U.S.C. 112, first paragraph, should be withdrawn. Because claims 2-7, 9, 16-21, 23, 25-27, 29, 31-36, 38, 40-47, 49-50, depend on claims 1, 15, 24, 30 and 39, rejections of these claims should also be withdrawn for at least the reasons discussed.

Claim Rejections – 35 U.S.C. § 103

Claims 10-14 and 51 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wils et al. (U.S. Patent No. 6,397,260 B1), in view of Wu et al. (U.S. Patent No. 7,065,043 B2). Applicants respectfully traverse these rejections.

Claim 10, as amended, recites in relevant part:

assigning a first address set to the first gateway device, wherein the first address set comprises a plurality of forwarding addresses, further wherein the first gateway device operates as a first active gateway to forward~~forwards~~ packets sent by hosts and addressed to forwarding addresses in the first address set;

assigning a second address set to the second gateway device, wherein the second address set comprises a plurality forwarding addresses, further wherein the second gateway device operates as a second active gateway to forward~~forwards~~ packets sent by hosts and addressed to forwarding addresses in the second address set;

Wils discloses virtual routers configured with a common IP address, where each virtual router has a unique virtual MAC address. See col. 6, lines 21-47. : "In accordance with VRRP, the routers R1 and R2 are configured to implement two Virtual Routers, designated in FIG. 2 as Virtual Router A and Virtual Router B. Virtual Router A is associated with an IP address designated IPA and a *MAC address MA*, while Virtual Router B is associated with an IP address designated IPB and a *MAC address MB*." (See Col. 4, Ins. 65-67, Col. 5, Ins 1-13)(emphasis added).

A router can become a master for one or more virtual routers, and therefore handle all the forwarding traffic for these virtual routers. See col. 7, lines 8-43. The routers R1 and R2 are configured to participate in multiple virtual routers, Virtual Router A and Virtual Router B. See col. 6, line 22 – col. 7, lines 53; see FIG. 3. A router acting as a master for a virtual router forwards messages containing the MAC address for that virtual router. See col. 7, lines 27-43. Specifically, router R1 acts as a master for virtual router A and a backup for virtual router B, while router R2 acts as a master for virtual router B and a backup for virtual router A. Thus, only a single router of Wils can operate as a master (active) router for purposes of a virtual router.

Thus, while each router of Wils has two virtual MAC addresses associated therewith, these two virtual MAC addresses are not associated with a single redundancy group (e.g., virtual router), as claimed. Rather, the two virtual MAC addresses for each router are associated with two different redundancy groups. Moreover, only one of the routers of Wils operates as an active gateway (e.g., actively forwards packets) for a single redundancy group (e.g., virtual router). Accordingly, Wils fails to disclose or suggest “assigning a first address set to the first gateway device, wherein the first address set comprises a plurality of forwarding addresses, further wherein the first gateway device operates as a first active gateway to forward~~forwards~~ packets sent by hosts and addressed to forwarding addresses in the first address set;” and “assigning a second address set to the second gateway device, wherein the second address set comprises a plurality forwarding addresses, further wherein the second gateway device operates as a second active gateway to forward~~forwards~~ packets sent by hosts and addressed to forwarding addresses in the second address set,” as recited in claim 10, as amended.

Finally, the Examiner asserts that Wils discloses “*adjusting* the measured traffic flow by *changing allocation* of the forwarding addresses based upon the measured traffic flow”. (Office Action, page 6 (emphasis added), citing column 7, lines 27-43. Wils does disclose replying to an ARP request from a host with a MAC address configured for one of the virtual routers However, Applicant was unable to find anything in this cited paragraph relating to changing the allocation of the forwarding addresses based upon the measured traffic flow for the forwarding addresses (e.g., of a single redundancy group or virtual router).

Finally, with respect to “measuring the traffic flow,” the Examiner points out that Wils fails to disclose “measuring the traffic flow for each forwarding address.” (Office Action, page 7). The Examiner asserts that Wu supplies this missing element, arguing: “Wu, from the same or similar field of endeavor, teaches measuring the traffic flow for each forwarding address (see Fig 3 and 5, column 4, lines 45-57 and column 5, lines 45-55).” (Office Action, page 7). Applicants respectfully disagree.

Wu describes “a system and method for providing Voice-over-Internet Protocol (VOIP) system using, among other things, at least two VoIP proxy servers configured to allow voice data to be transmitted and received over the network.” (Wu, Abstract). All that the sections cited by the Examiner describe in relevant part, as the Examiner himself has stated in prior Office Actions (see

Office Action dated May 9, 2008), monitoring workload on the at least two VoIP proxy servers. (Wu, Abstract). However, monitoring the workload on a VoIP server is not the same as measuring the traffic flow for each of a set of a plurality of forwarding addresses assigned to a gateway device. Accordingly, Applicants respectfully assert that Wu cannot be said to teach or disclose “measuring the traffic flow for *each forwarding address*” (emphasis added).

In view of the above, the combination of the cited references would fail to operate as claimed. For at least these reasons, the Applicants respectfully submit that the rejections of independent claim 10 over the combination of Wils and Wu under section 103(a) should be withdrawn. Because claims 11-14, and 51 depend on claim 10, rejection of these claims should also be withdrawn for at least the reasons discussed.

CONCLUSION

For at least the above reasons, Applicants believe all claims now pending in this application are in condition for allowance. Applicants therefore respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner believe a telephone conference would expedite prosecution of this application, please contact the undersigned at the telephone number set forth below.

The Commissioner is hereby authorized to charge any additional fees, including any extension fees, which may be required or credit any overpayment directly to the account of the undersigned, No. 504480 (Order No.CISC329).

Respectfully submitted,
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